

PATENT
Attorney Docket No. VM7036492002
Varian No. 03-030

AMENDMENTS TO THE CLAIMS

Please cancel claims 4, 5, 14, 15, and 26, amend claims 1, 12, 13, 21, 24, 27, 28, and 39, and insert new claims 43-53, as follows.

1. (Currently Amended) An apparatus for use in a radiation procedure, comprising:
a radiation filter having a first portion and a second portion, the first and the second portions forming a layer for filtering radiation impinging thereon; wherein the first portion is made from a first ~~material having a first x-ray filtering characteristic material~~, and the second portion is made from a second ~~material having a second x-ray filtering characteristic material~~; a structure having a cavity, the radiation filter in operative association with the structure;
and
a disk located within the cavity, the disk having a first target material and a second target material.
2. (Currently Amended) The apparatus of claim 1, ~~further comprising wherein the first and the second target materials are parts of a radiation source for generating the radiation, and the apparatus further comprises the radiation source.~~
3. (Original) The apparatus of claim 2, further comprising a gantry to which the radiation source is secured.
4. (Canceled)
5. (Canceled)
6. (Original) The apparatus of claim 2, wherein the radiation source comprises an anode that includes a rare earth element, a platinum group metal, or combination thereof.

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7. (Original) The apparatus of claim 2, wherein the radiation source comprises a voltage generator.
8. (Original) The apparatus of claim 7, further comprising a switching element coupled to the voltage generator, the switching element configured to modulate the voltage generated by the voltage generator.
9. (Original) The apparatus of claim 1, further comprising an imager for generating image data in response to radiation that has been filtered by the layer.
10. (Original) The apparatus of claim 9, wherein the imager has a first image element for generating a first image data in response to radiation that has been filtered by the first portion of the radiation filter, and a second image element for generating a second image data in response to radiation that has been filtered by the second portion of the radiation filter.
11. (Original) The apparatus of claim 9, further comprising a gantry, wherein the imager and the radiation filter are secured to the gantry.
12. (Currently Amended) The apparatus of claim 9, wherein the imager is coupled to a support structure for supporting an object to which filtered radiation is directed.
13. (Currently Amended) The apparatus of claim 1, wherein either or both of the first and the second x-ray filtering materials are selected from the group consisting of aluminum, copper, and molybdenum.
- 14-20. (Canceled)
21. (Currently Amended) A method for generating image data, comprising:
generating a first x-ray radiation using a first target material;
applying a first filter factor to the first x-ray radiation to obtain a first filtered radiation;

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generating a first set of image data in response to the first filtered radiation;
generating a second x-ray radiation using a second target material;
applying a second filter factor to the second x-ray radiation to obtain a second filtered radiation; and

generating a second set of image data in response to the second filtered radiation;
wherein the first and the second filter factor is applied automatically using a machine.

22. (Original) The method of claim 21, wherein the first filter factor is applied by placing a first filter into the x-ray radiation.

23. (Original) The method of claim 21, wherein the second filter factor is applied by placing a second filter into the x-ray radiation.

24. (Currently Amended) The method of claim 21, wherein the first filter factor ~~is the~~ has a same filtering characteristic as the second filter factor.

25. (Original) The method of claim 21, wherein the first filter factor is different from the second filter factor.

26. (Canceled)

27. (Currently Amended) The method of claim 21, wherein the first filter factor and the second filter factor are applied by placing a first filter and a second filter, respectively, into the first and second x-ray radiation.

28. (Currently Amended) The method of claim 27, wherein the first filter and the second filter are secured to a rotatable structure, ~~and the first and the second filters are placed into the x-ray radiation by rotating the structure.~~

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29. (Original) The method of claim 21, wherein the first set and the second set of image data are generated using an imager.

30. (Original) The method of claim 29, further comprising collecting the first set and the second set of image data from the imager.

31. (Original) The method of claim 30, wherein the collection of the first and the second sets of image data is synchronized with positions of the first and the second filters.

32. (Original) The method of claim 21, wherein the first set of image data is generated using a first imager, and the second set of image data is generated using a second imager.

33. (Original) The method of claim 32, further comprising collecting the first set and the second set of image data from the first and the second imagers, respectively.

34. (Original) The method of claim 27, wherein either or both of the first and second filters comprise a material selected from the group consisting of aluminum, copper, and molybdenum.

35-38. (Canceled)

39. (Currently Amended) An apparatus for use in a radiation procedure, comprising:

a structure;

a first radiation filter secured to the structure;

a second radiation filter secured to the structure;

a first target material;

a second target material; and

a positioner coupled to the structure, the positioner configured to move the structure between a first position and a second position, wherein the first radiation filter is adapted to receive a first radiation generated using the first target material when the structure is in the first

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position, and the second radiation filter is adapted to receive the a second radiation generated using the second target material when the structure is in the second position.

40. (Original) The apparatus of claim 39, wherein the structure comprises a wheel.
41. (Original) The apparatus of claim 39, wherein the positioner comprises a motor.
42. (Original) The apparatus of claim 39, wherein either or both of the first and the second radiation filters is made from a material selected from the group consisting of aluminum, copper, and molybdenum.
43. (New) The apparatus of claim 1, wherein the first target material forms a ring configuration.
44. (New) The apparatus of claim 1, wherein the first target material and the second target material are positioned concentrically relative to each other.
45. (New) The apparatus of claim 1, wherein the first target material and the second target material are positioned relative to each other in a side-by-side configuration.
46. (New) The apparatus of claim 1, further comprising an electron gun for sending electrons towards the first or the second target material.
47. (New) The apparatus of claim 46, further comprising an electron deflector for changing a path of the electrons.
48. (New) The apparatus of claim 47, wherein the electron deflector comprises an electromagnetic field generator.

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49. (New) The apparatus of claim 47, wherein the electron deflector comprises a magnetic field generator.
50. (New) The apparatus of claim 47, wherein the electron deflector physically deflects the electrons.
51. (New) The apparatus of claim 1, further comprising a gantry to which the structure is secured.
52. (New) The apparatus of claim 1, wherein the structure is a part of a MRI machine.
53. (New) The apparatus of claim 1, wherein the structure is a part of a PET machine.

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